

### **Remarks**

Claims 1, 3-8, and 10-15 remain in this application. Claims 1, 3, 4, 8, 10, and 15 are hereby amended. Claims 2 and 9 are hereby canceled without prejudice. No new matter is being added.

### **Claim Objection**

Original claims 4, 5, 10, 11, 12, 13 and 14 were objected to for out of order claim numbers in the dependent claims. In accordance with Examiner's comments, applicant has amended claims 4, 5, 6, 10, 11, 12, 13 and 14 such that the claim numbers are no longer out of order. Applicants respectfully submit that this objection is now overcome.

### **Claim Rejections--Section 101**

Original claims 8 and 10-14 were rejected under 35 USC 101 as being directed towards software per se. The rejection states that these original apparatus claims fail to recite any hardware features.

In accordance with Examiner's comments, applicants have amended independent claim 8 so that it now the necessary hardware features for a computer, including a processor and memory system. Claims 10-14 depend from claim 8. Therefore, applicants respectfully submit that claims 8 and 10-14, as amended, now overcome this rejection.

**Claim Rejections--35 USC 102**

Original claims 1, 4, 5, 7-8, 11, 12, 14 and 15 were rejected under 35 U.S.C. § 102 as being anticipated by Ayers. These rejections are respectfully traversed with respect to the claims as now amended.

Amended claim 1 now recites as follows.

1. A method of compiling a computer program, the method comprising:  
receiving a plurality of modules of source code;  
generating intermediate representations corresponding to the modules;  
extracting a set of data from the intermediate representations to create an inliner summary for each module;  
using the inliner summaries and a globally-sorted working-list based order in an inline analysis phase to determine which call sites in the modules are to be inlined by substituting code from a called module; and  
**after a call site is determined to be inlined, updating a call graph of the routines and call sites, and updating the inliner summaries throughout the call graph.**

(Emphasis added.)

The claim limitation of **"after a call site is determined to be inlined, updating a call graph of the routines and call sites, and updating the inliner summaries throughout the call graph"** is incorporated into claim 1 from original claim 2. Applicants respectfully submit that this limitation is not disclosed or taught by the cited art. In particular, Ayers, section 2.3, last paragraph (as cited in the office action against claims 2 and 9) relates to "cloning". Applicants respectfully submit that "cloning" is disclosed and taught by Ayers to be distinct from and contrasted against the claimed "inlining."

Section 1 of Ayers explains the difference between inlining and cloning as follows.

One such technique is *inlining*: direct incorporation of the code for a subroutine call into the calling procedure. ... Another common technique for exploiting interprocedural information is *cloning*: the duplication of a callee so that

its body may be specialized for the circumstances existing at a particular call site or set of call sites.

As shown above, **inlining and cloning are distinctly different technical procedures** and are not equivalent or readily interchangeable. Hence, applicants respectfully submit that amended claim 1 now overcomes this rejection.

Claims 4, 5 and 7 depend from amended claim 1. Therefore, applicants respectfully submit that claims 4, 5 and 7 now also overcome this rejection for at least the same reasons as discussed above in relation to amended claim 1.

Similarly as with claim 1, claim 8 is amended to incorporate the limitation from original claim 9 and now recites "the cross-module optimizer being configured ... to update a call graph of the routines and call sites, and to update the inliner summaries after a call site is determined to be inlined." As discussed above, applicants respectfully submit that section 2.3 of Ayers pertains to cloning, not to inlining, and that "cloning" is disclosed and taught by Ayers to be distinct from and contrasted against the claimed "inlining." Therefore, applicants respectfully submit that amended claim 8 now also overcomes this rejection.

Claims 11, 12 and 14 depend from amended claim 8. Therefore, applicants respectfully submit that claims 11, 12 and 14 now also overcome this rejection for at least the same reasons as discussed above in relation to amended claim 8.

Also similarly as with claim 1, claim 15 is amended and now recites "after a call site is determined to be inlined, to determine a call graph of the routines and call sites, and to update the inliner summaries throughout the call graph." Therefore, applicants respectfully submit that amended claim 15 now also overcomes this rejection.

#### **Claim Rejections--35 USC 103**

Original claims 3, 6, 10 and 13 were rejected under 35 U.S.C. § 103 as being unpatentable over Ayers in view of Schmidt. These rejections are respectfully traversed with respect to the claims as now amended.

Claims 3 and 6 depend from amended claim 1. Therefore, applicants respectfully submit that claims 3 and 6 now also overcome this rejection for at least the same reasons as discussed above in relation to Ayers and amended claim 1.

Claims 10 and 13 depend from amended claim 8. Therefore, applicants respectfully submit that claims 10 and 13 now also overcome this rejection for at least the same reasons as discussed above in relation to Ayers and amended claim 8.

**Conclusion**

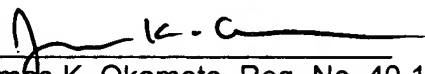
For the above-discussed reasons, applicant respectfully submits that the pending claims, as hereby amended, are now in form for allowance. Favorable action is respectfully requested.

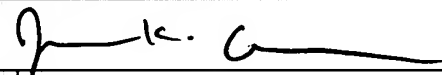
The Examiner is also invited to call the below-referenced attorney to discuss this case.

Respectfully Submitted,

Dhruva R. Chakrabarti et al.

Dated: 5/16/2007

  
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